

New Breeding Records of Malayan Birds

BY

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(With three plates)

Family ARDEIDAE

Cattle Egret : *Ardeola ibis coromanda* (Boddaert)¹

Having discovered in 1956 and reported in the *Malayan Nature Journal*, December 1959, 13 (2) : 92, a breeding colony of Little Egrets, *E. g. garzetta*, in Perak, I had for a long time before this felt convinced that the Cattle Egret, *A. i. coromanda*, also bred in Malayan territory. This conviction was based on my own records of cattle egrets wearing their full regalia of breeding plumes while present in Penang right through April, May, and into the first week of June, after which they vanished. Eventually, however, when I did find them breeding it was a long way from Penang. This was in mid June 1959 in Kelantan, when on my way to revisit the pratincole colony discovered the previous year. I first noticed a few egrets around a group of the smallish black buffaloes which are a characteristic feature of Kelantan landscapes. Six birds were visible and all had golden plumes. The area was seared by the sun, miles inland from the coast, and the birds were simply following the meandering buffaloes. The date being 16 June gave me reason to hope that they might be mates of brooding birds; or if not already nesting they probably intended doing so. Therefore, I devoted the day to watching them. Great stretches of flat land in three directions lacked limitless vistas due to numerous 'islands' of mixed trees irregularly scattered over it, thus conveying a distinct sense of contraction and interrupted horizons. In the afternoon, after having noted numerous flights to and from one particular 'island' about half a mile (c. 1 km.) distant, I headed directly towards this objective and there ultimately found a colony.

¹ Nomenclature as in AN ANNOTATED CHECKLIST OF THE BIRDS OF MALAYA (C. A. Gibson-Hill, 1949).

There were ten nests in thinly foliated fringe trees along a frontage of twenty yards (c. 18 m.) facing east. The lowest and highest of these nests were 8 and 18 feet (c. 2 and 5 m.) respectively, and the remainder between 12 and 15 feet (c. 4 and 5 m.) high. Their ragged loosely constructed appearance from the ground was an illusion as I soon discovered on close inspection, when I was surprised by their compactness and solidity. Exterior diameters averaged around 16 inches (c. 40 cm.); interiors were spacious and deeper than expected and had no lining other than rootlets and broken twigs. Eight nests contained eggs: two with four, three with three, two with two, one with one, while two nests were empty. The eggs had smooth glossless texture and unique colour—uniform pale milky blue—with no trace of heron green. Average measurements of the twenty-two eggs were: c. 45×35 mm. At least half of the bill and end of the tail of an incubating bird projected over the nest rim. I made a complete circuit of the 'island' and then went through it in two directions but saw no trace of old nests, and so concluded that this present colony was freshly established, although in all probability it had been sited at other 'islands' in other years. At any rate, this prosperous nucleus of beautiful birds was flourishing again in 1960, but since then I have not been back.

Tiger Bittern : *G. melanolophus melanolophus* Raffles

Compared with the small bitterns the Tiger Bittern is considerably longer [20 inches (c. 50 cm.)], rounder, and as a breeder in Malaya very much rarer. In forty years I have seen four nests: October 1923, September 1931, August 1941, and September 1953—the first two in Penang, the third in Province Wellesley, and the last in Kelantan. The salient features of this shy and solitary bird are its plumage, its bill, and its nest. The adult has a black crest projecting beyond the back of the crown to the nape; the sides and back of the neck are rufous; the back, mantle, and wings are cinnamon, with close stippings of black; some primary coverts and primaries are black with touches of white at the tips. The upper side of the tail is oily black, the underside white. The whole of the underparts from throat to vent may be described as ochreous yellow, streaked, barred, and mottled with black, and the impact on the observer is very striking. In addition, the bird has a noticeably thick, slightly down-curved green bill with a black tip, more like that of a gallinaceous bird than a heron. The 1923 nest was placed in the summit of a dense reed bed mixed with scrub a little less than 7 feet tall, and was made of stiff reed stems and twigs with a lining of dried iris flags and water hyacinth leaves.

The others, however, were high up in trees constructed entirely of sticks and lined with dead leaves. The 1953 nest was highest of all, 60 feet (c. 18 m.) up in a mangrove tree (Kelantan River estuary, in the vicinity of Tumpat). Each nest when found contained four eggs, but although the tree nests were definitely in the heron-type category, excepting of course the leaf-lining, the eggs were very definitely not, being slightly pointed at both ends and pure mat-white. The average measurements of sixteen are c. 49×39 mm. The birds fed habitually by day during the nesting period.

Schrenck's Bittern : *Ixobrychus eurhythmus* (Swinhoe)

Schrenck's Bittern [length 12 inches (c. 30 cm.)] is the smallest of the three small Malayan bitterns, the two others being the Yellow (*I. sinensis*) [length 14 inches (c. 35 cm.)], and the Chestnut (*I. cinnamomeus*) [length 15 inches (c. 38 cm.)]. At a glance Schrenck's might be mistaken for the Chestnut, but there are two features which distinguish it at once. Generally speaking the Chestnut in flight is uniformly chestnut over all its upper surface, whereas Schrenck's is chestnut with blue-black wing primaries and tail. The Chestnut and the Yellow are resident breeding birds and, although the Yellow and Schrenck's stand in official records as winter visitors only, Schrenck's also breeds but is not resident. Full accounts by me of the breeding of the Chestnut and the Yellow Bitterns have been published (vide *Malayan Nature Journals* 1941 and 1954) but hitherto the breeding of Schrenck's has not. The latter, of course, is the rarest of the three and can easily be missed or its identity mistaken as cited above. However, over many years of field work amongst bitterns, and long before I got a nest, I noted it occurring more frequently than it was supposed to do. My first nest was found on 7 July 1941. It was composed of living herbage bent over and interlocked to form a substantial pad about 2 feet (c. 60 cm.) above ankle-deep water in dense reeds (*Scirpus grossus*) at the corner of a paddy field. Lined with dry menerong (*Scirpus grossus* blades) it contained three eggs on the point of hatching. So began an irregular series of odd nests all on Penang Island, the most recent one occurring in August 1961. These comparative factual observations may be useful: Nests of Chestnut Bitterns are large open platforms at water level; nests of Yellow Bitterns are domed suspended small pads from 3 feet to 6 feet (c. 90 to 180 cm.) above water level; nests of Schrenck's Bitterns are open supported small pads usually about 2 feet (c. 60 cm.) above water. Again, Chestnut Bittern eggs are broad chalky white ovals averaging c. 34×27 mm.; Yellow Bittern eggs are smooth pale green ovals averaging c. 32×24 cm.;

whilst Schrenck's Bittern eggs are smooth creamy-white ovals averaging *c.* 30×23 mm.; each a thin-shelled distinctive type. When clearing land for paddy planting Malays come across many bittern nests and gather the eggs for food. On several occasions in different years I have seen the eggs of all three species being carried home in coconut shells and other receptacles, which means there must be more nests of Schrenck's Bitterns about than those now recorded.

Family ANATIDAE

Cotton Teal : *Nettapus coromandelianus coromandelianus* (Gmelin)

This small resident duck is also something of a phenomenon. It is known from every Malay State, yet no breeding has ever been reported which, to say the least, is quite extraordinary since a resident bird must breed regularly. It is a fact, however, that I have never found them breeding in the same place in consecutive years, although all such places are secluded and remote. In addition, as soon as egg laying begins the birds become completely silent so that seclusion and silence may have some bearing on the lack of information. First nests were found in Kedah in September 1947. There were five within the area of a small backwater surrounded by secondary forest. Two of these were placed in a reed bed and three were in hollow tree-limbs projecting over the reeds. The open nests were made entirely of dried reeds lined with down and the whole wedged into and supported by the densely growing stems. The tree nests were made entirely of down, creamy with dusky centres, sparingly mixed with slivers of dessicated herbage. The reed nests contained six (eventually ten) and nine eggs respectively, while the contents of the tree nests were seven, eight, and eight. Near Chalag, Kelantan, in September 1950, I got one tree nest containing eleven. The eggs are smooth ivory-white ovals averaging *c.* 43×32 mm., which is somewhat smaller than the cream-shelled eggs of the Whistling Teal, *D. j. javanica*. According to my observations only the duck incubates. The drake is a striking bird; bill black, crown and nape dark brown; face, neck, and all underparts pure white with a broad black collar round the base of the neck. Back and wings shiny green-bronze with white wing patches very noticeable in flight. The duck's face and neck are grey with no collar. Her back is brown, breast grey, flanks tinged with buff, belly dull white. The male looks like a pigmy goose and his peculiar voice is a goose-like gabble in minor key. In November 1956 a Malay

fisherman with whom I had contact for many years sailed his *prahu* all the way from Port Weld to Penang to tell me he had found some ducks' nests in mangrove forest! *Itek belabas* he called them, which is the Malay name for Cotton Teal, and at the same time handed me a small basket containing three eggs. Next day we started the long trip back to Port Weld. Eventually I was taken to the place and saw six nests of Cotton Teal wedged into the mingled arches of mangrove roots in old forest. Three adjacent trees were involved in supporting the little colony. On our approach I noticed that all the disturbed birds flew inland and not seawards. The nest from which the three eggs had been taken still contained three, so that the clutch in this case had been six when found. Two others held nine each, and three held ten each. The principal breeding period appears to be September through to December, but characteristically the bird and the month and the place are unpredictable.

Family ACCIPITRIDAE

Bat Hawk : *Machaerhamphus alcinus alcinus* Westerman

9 November 1959 was bright blue and sunny. At 9.30 a.m. of that day I happened to be in a remote area of Penang Island when a large black falcon-like bird passed overhead with what appeared to be a snake but was in reality a small branch dangling under its body. Through my glasses I followed the bird to its destination, which was a tall tree on the edge of swamp backed by forest about 400 yards (c. 365 m.) distant. Moving inside the forest fringe to within 20 yards (c. 18 m.) of the tree I discovered that the bird was none other than a splendid Bat Hawk or Pern, *M. a. alcinus*, serenely employed in shaping the foundation of an eyrie. From that day on I learned some new facts concerning the habits of Bat Hawks, supplementing the meagre known ones. Because of its appearance the species is quickly and easily identified. In the field it shows entirely black with conspicuous white throat and central breast. A closer look reveals white patches above and below the eyes and a long black crest down the nape. The bill is black and the legs and feet are reddish black with black claws. Through the four weeks following, nest building by both birds was a daily routine, especially between 9 a.m. and noon, but if it rained all such activity ceased. Longish flights were taken to collect material usually in one direction, which might or might not indicate preference for certain sticks. At any rate it is to be noted that, although the birds are definitely crepuscular in habit when feeding, as I will soon describe, the entire nest was built during the

brightest part of 28 consecutive days and at no time did the birds show any sign of embarrassment or distress through the dazzle of tropical light. Flight was swift and sure at all times and no different from the feeding flight at dusk. After 9 December no more material was collected and for the next 7 days both birds perched close to the nest several times daily, but between these visits disappeared altogether. The nest was a fair-sized structure of sticks, which looked smaller than it actually proved to be, due to its being sited a short way out on a limb in a bower of foliage, and could only be wholly seen from directly below. On 16 December my climber made his first ascent which presented no difficulty. The nest was empty. It measured 1 foot (c. 30 cm.) high and 2 feet (c. 60 cm.) wide with a shallow central depression 1 foot (c. 30 cm.) across. The lining consisted of fine roots and fibres but no leaves. Height from the ground was 110 feet (c. 33 m.). The fineness of the sticks comprising the upper exterior structure gave a close-packed effect suggestive of a squirrel's drey. At 10 a.m. on 17 December there was one egg in the nest and one spray of green leaves. At 10 a.m. on the 18th there was no change. At 10 a.m. on the 19th there were two eggs and three green sprays. On the 20th, no change. At 10 a.m. on the 21st there were 3 eggs and 5 green sprays. This proved to be the complete clutch and, as shown, egg-laying occurred on alternate days. Individual measurements of the 3 eggs were: c. 63×47 , c. 60×46 , c. 61×47 mm., giving an average of 61×47 mm. All were smooth, without gloss and blue-white in colour, yet each egg was different. The largest was unmarked blue-white, the second largest had submerged clouding of pale grey, whilst the smallest, also clouded with pale grey, had in addition pale red freckles sparingly sprinkled over the small end. This egg was laid first and the largest last. Nesting on one previous occasion is on record but the nest and eggs were not examined or described. The Bat Hawk's method of hunting is fascinating; and over a period of months I never saw either bird chase or catch anything other than bats. Invariably about 6.50 p.m., the bat-echelons in depth began their erratic coursing, always north to south, past the Hawk's tree and, strange to relate, the bird on watch never attempted to interfere with these first flights. When attacks did begin, however, they were continuous and amazingly successful. On several evenings, no less than seven bats were caught and devoured in 12 minutes by the same bird. The captures were not made by power dives from above like a Peregrine; the Bat Hawk always flew level with and straight through the flank of advancing bats, then curved up under its victim, and in one simultaneous movement turned on its back,

reached upward with its talons, and literally plucked the bat out of the air, before swerving away into normal flying position. Bats so caught were often devoured piecemeal in the air at once or just as frequently after flying back to the favoured perch. When consumption occurred in flight I was able to observe that some part of the bat was always dropped—wings, I think—but this was not definitely established. Another remarkable fact was noted; the hawk at no time ever flew into a flock of bats to chase them indiscriminately. Every sally out of the tree was fast and straight towards what was quite evidently a pre-selected bat and all others were ignored. How and why this selection was made I cannot even remotely determine; and the solution will no doubt continue to remain as elusive as this very elusive bird.

Sparrow-Hawk : *Accipiter virgatus* (Temminck)

In any year in all kinds of country Sparrow-Hawks are frequently encountered from October through to April. Presumably these birds are members of the Japanese race, *A. v. gularis*, and regular winter visitors to Malaya. The existence of a resident race, however, has long been suspected but definite status never established. In view of this the finding of a Sparrow-Hawk's nest in Malaya becomes an important ornithological record. On 26 May 1957, in mountain forest east of Selama, Perak, I found one containing 3 eggs. My first glimpse of the bird as it flashed out of the tree made me think it was some species of cuckoo, but on hearing its voice I knew it was a Sparrow-Hawk. The alarm consisted of a querulous phrase of six notes, *keh-keh-keh-keh-ki-kee*, exactly to the time and accent of the song 'Ta Ra Ra Boom De-Ay' uttered in quick time. It was this call that encouraged me to expect a nest, since migratory birds rarely break silence when disturbed. Examining the tree from various ground positions I eventually spotted what appeared to be something denser and darker than a mere mass of foliage, sited on a horizontal bough where it branched into a treble fork about 8 feet (c. 2 m.) out from the main trunk; and when measured later found to be 65 feet (c. 20 m.) up but still well below the canopy. Changing to $\times 15$ binoculars I could see a few flecks of white down and so knew the answer. On instructions my Malay climber went on up beyond the bough and looking down, reported three red-marked white eggs in the shallow centre of a structure of fine sticks about 18 inches (c. $\frac{1}{2}$ m.) wide. Although the nest was surrounded by green foliage no leaf, green or brown, or lining material of any kind was used in the fabric. Tufts of white down flecked the inner and outer perimeters: and all

was fresh and new, indicating that the hawks had completely built their own nest and not used any older relic as a foundation. Next day 27th I got a good long look at the female preening on a bough some 10 feet above her nest. The head was dark grey; wings, back, and tail earth brown marked with darker brown. The throat was white with a dark vertical line in the centre. The breast and abdomen were off-white barred with medium strength brown. The under tail coverts were white; the iris, cere, and legs yellow tinged with green; and the beak was blackish grey. From her behaviour it was evident the clutch was incomplete. On examination my climber again reported three eggs, but as sparrow-hawks lay on alternate days the clutch, as shown later, was incomplete. Awang lowered the eggs in a basket for inspection. All were bluish white, un glossed, richly splashed with dull red. One had a claw hole at the side and this I retained. Individual measurements were: 39×30 , 39×30 , 40×31 mm.

Counting in reverse the third egg must have been laid on 26 May, the second on 24 May, and the first on 22 May. After the two eggs were hoisted back to the nest the male appeared. He was uniform grey above including the tail which had four bars across it. The throat, central belly and undertail were cream while all remaining underparts were very rich rufous without bars. The bill appeared to be black and the tarsi an impure yellow. I judged him to be a foot (c. 30 cm.) in length and the bulkier female about 15 inches (c. 38 cm.). On the 28th the female definitely flew off the nest which, as anticipated, again contained 3 eggs including the new laid fourth egg which was very handsome. A fifth egg in the nest on 30 May was uniformly blue-white without a single mark. On account of anti-bandit operations no further visits were possible.

By this record breeding is established but racial identity remains unsolved. I could detect no difference other than the male's rich colour between them and normal visiting sparrow-hawks, some males of which have pink underparts, and think it possible that this pair might have been *A. v. gularis* which stayed to breed. Eventually this may be confirmed or contradicted if and when breeding birds are subsequently taken and proved to be some other race. In the meantime these facts are cited in support of the *gularis* concept. Bay-headed Bee-eater, Brown-breasted Bee-eater, Black-capped Kingfisher, Pied Imperial Pigeon, Little Grebe, Bronze-winged Jaçana, Philippine Banded Crake, Short-toed Eagle, Tiger Bittern, Yellow Bittern, Schrenck's Bittern, Night Heron, Little Egret, Cattle Egret, Pratincole—all classed as migrants and winter visitors—remain to breed, so there would appear to be no valid reason why any species

at any time should not extend the conventionally known limits of its breeding range.

Blyth's Hawk-Eagle : *Spizaetus nipalensis alboniger* (Blyth)

Early in January 1950 when vacationing on Penang Hill, I became aware of the presence of a pair of birds, and after seeing and hearing them continuously every day for three weeks they became as familiar as Fairy Bluebirds. Smaller than Changeable Hawk-Eagles and entirely different in colour, they are adequately described as being all black above and streaked and barred black and white below. The bill is black and the feet are yellow. On this occasion I was fortunately placed for observation. The house I occupied, situated at 2200 feet (c. 670 m.) elevation, overlooked the densely forested valley which was their favoured habitat; and it was in this valley they built their nest. In doing so the birds passed just beyond and below the house level when bringing material, and I could watch whilst sitting in the garden or from any southward-facing window. Sticks were occasionally carried crosswise in the bill, but more frequently in one foot either crosswise, lengthwise, or hanging below the foot. Both legs were always down but only one foot held the stick. For a week this was the daily routine. Then all activity ceased after 10 January, so they must have started early December. In the meantime I had located the selected tree, which was actually higher up the valley than the house and was approximately 2350 feet (c. 720 m.) above sea-level. Knowing from experience the leisurely habits of the big Raptores I left it severely alone and devoted my time to other species. Every day I saw the eagles circling and winging their courses just above the treetops and calling repeatedly in flight. This call is a resounding tri-syllable *kee-lu-kuk*, which echoes round the hills and totally unlike the Changeable Hawk-Eagle's clear, double *blee-kwik*. Time passed and it was 28 January when I eventually returned to the eagles' tree with my climber Awang, the best of many I ever had. He was more than half way to the nest before the eagle went off in a hurry, the vibrations of his ascent having registered rather late, probably because she was asleep. The nest proved to be 75 feet (c. 23 m.) up, placed in a stout treble fork of the tree bole and at least 20 feet (c. 6 m.) below the canopy. The exterior diameter measured 2 feet 6 inches (c. 75 cm.), the interior 1 foot 6 inches (c. 45 cm.), and the stick pile 1 foot 3 inches (c. 38 cm.) thick. It contained a single egg lying on desiccated green leaves with four sprays of green leaves round the inner perimeter. The unglossed grey-white shell was strewn with flecks of claret and had sub-surface grey patches at

the smaller end, which may or may not have been leaf stains. It measured 59×48 mm. Subsequent history shows that a pair, probably the same, bred in the same locality in 1951. In 1956 a pair bred in another forested valley 3 miles (c. 5 km.) to the south at an elevation of not more than 1000 feet (c. 300 m.), and in 1959 a pair bred in Batu Ferringhi Forest Catchment Area at not more than 600 feet (c. 180 m.) elevation. The relics of this eyrie still linger.

Black Eagle : *Ictinaëtus malayensis* (Temminck)

The Black Eagle is unmistakable. Including the bill it is completely black with numerous faint grey bars across both sides of the tail; and bright yellow legs, and feet.¹ It is larger than the Hawk-Eagle with a longer tail; and on the wing is truly a magnificent bird. Strangely enough, although resident, its breeding in Malaya has not been reported, probably because its chief habitat, mountain forest, is difficult of access and more than difficult to negotiate. Thereafter guess work and frustration begin as all who have entered mountain forest must know. Once in, there is no way of seeing out, and even if an eagle or any bird passes above the canopy it cannot be seen or cast a shadow which in the open normally betrays a large bird passing overhead. If the forest is scanned from some vantage point above it there is no way of seeing in, and eagles' nests are always below the canopy. My first inclination was to use the vantage point method, try to locate a bird on the wing and watch it down to its final tree-fall. Then it occurred to me that, if I could locate a bird on the wing whilst I myself was outside the forest altogether and looking up some hill face, I might do better; so for 7 consecutive days from a different place each day, I gazed over green treetops into birdless blue skies. This was April and I did not know whether Black Eagles nested in April or any other month earlier or later, but on the 8th day, just before 10 a.m., I picked up two birds in the field of my glasses, one slightly larger than the other and evidently a pair. They were swinging round in opposing circles, drifting gradually towards the hill forest which faced south-east. Using ×15 binoculars, I followed the aerial evolutions of the female and gave a pair of ×10 to my climber to follow the male. At 10.20 a.m. she stopped gliding, dropped her feet and, on slightly retracted wings, sped towards and into the trees at an elevation close to 300 feet (c. 90 m.). She did not alight on a tree but went straight through a gap in the forest 'roof'. In the meantime the male had simply drifted off southward. After memorising everything possible that would help

¹ The yellow cere, and gape are very noticeable in the Indian bird.—Eds.

to guide us, we sat in deep shade by a stream and shared a big pomelo—the best thirst deterrent in forest work. Starting about noon and surmounting the tortuous hazards of the ascent we finally, at 3.30 p.m., came upon an eyrie in a big tree. At the striking of the trunk with a heavy bough off went the Black Eagle uttering as she left one loud whistling squeal. The eyrie was a massive structure, the basal sticks weathered grey denoting considerable age, whilst the upper mass was fresher and some green-leafed sprays were visible at the rim. It was placed in a great central junction of three boughs at 90 feet (c. 28 m.) from the ground—the canopy another 30 feet (c. 10 m.) above it—with not a single branch on the entire 90 feet (c. 28 m.) of the trunk. Seeing no more of the eagle and being too late in the day to make such a climb, we returned to camp for the night. The date was 25 April 1958. Starting at dawn next morning we were approaching the tree by 8 a.m. There was an eagle on a bough above the nest, and within moments another rose out of the nest and stood on the rim. This was the male. There was no alarm since our presence was still unsuspected. At 8.20 a.m. the female came down to the nest and settled. Not until then did the male glide out of the forest.

Malays have two methods of tackling big trees and Razali, my climber on this occasion, was an adept at both. The first method is slow and laborious; it consists of lashing saplings to the bole of the tree all the way up, with short cross pieces for resting at 10 foot (c. 3 m.) intervals. This 'pipe', of course, has to be fixed in sections one at a time and is a most arduous undertaking since the higher it goes the longer each descent for and ascent with the next section becomes. This is always the method employed if the bark is smooth or wet after rain. If the bark is rough and dry (in the present case it was), then two loops of half-inch (c. 12 mm.) rope are sufficient, one stretched between his feet, the other passed round the trunk and stretched between his hands, thus completely spanning the circumference which his arms alone could not do; he then 'stands' by the pressure of the taut foot-rope, flicks the hand-rope upwards, leans back on it, brings up his feet and so, by a continuous series of caterpillar loops, goes up in no time at all.

The eyrie interior was clean, fresh, shallow, and about 2 feet (c. 60 cm.) wide, and contained two eggs lying on a bed of flattened green leaves. Exterior diameter was $3\frac{1}{2}$ feet, so that the rim all round was a foot and a half wide. The height of the structure was 2 feet 6 inches (c. 75 cm.). Razali had taken up with him 200 feet (c. 60 m.) of half-inch (c. 12 mm.) rope for the dual purpose of letting



Black Eagle. Male leaving eyrie



Pratincole's nest, containing two eggs and showing remarkable harmony with surroundings

Photos : J. Cairns



Nest and nesting tree of the Lesser Fishing Eagle

Photo : J. Cairns

down the contents for inspection and measurement, and making his descent easily and quickly simply by leaning outwards facing the tree and 'walking' down while holding the rope double slung from above. One egg was white, handsomely splashed with rich brown and clouded with ochreous pink and soft grey, and measured *c.* 69×53 mm. The second egg was also white clouded with pink and grey, but had no dark splashes. Slightly larger, it measured *c.* 69.5×53 mm. From the appearance and feel of the shells I estimated that incubation had begun about a week before. Whilst Razali was at the nest around 10 a.m. the eagles were not heard or seen, but after his descent one bird returned and settled, and although we kept watch till mid-afternoon, we did not see it leave. Inaccessibility and security are surely synonymous for breeding success, yet Black Eagles still remain rare birds and never seem to increase. The nest described above is located in the Jedok Forest Reserve, Kelantan.

Lesser Fishing Eagle : *Ichthyophaga nana nana* (Blyth)

Over a period of 40 years I have seen five nests of the Lesser Fishing Eagle, four in Kedah and one in Perak. This species is considerably smaller than the Black Eagle and, of course, strikingly different in appearance. The entire head, neck, breast, flanks, and underwings are unblemished ash-grey. The abdomen, thighs, and underside of the tail are pure white. The back, wings, rump, and upper side of the tail are brown. The grey of the breast and the white of the abdomen do not merge. They meet and remain sharply contrasted across the body, and this forms the most striking feature of the plumage. The bill is blue-grey, and the legs and feet are pale grey. Although this bird is not particularly scarce, yet it is rarely encountered since it avoids open country and frequents inland forest and river reaches with heavily forested banks. Finding a nest is a matter of luck; a bird may be seen flying into or out of a tree and there it is. Nest building takes a very long time, as the bird seems to be exceedingly fussy over sticks, many of which are either deliberately discarded or accidentally dropped, judging by the numbers that strew the ground at the base of the tree. I never have seen sticks at the base of a nesting tree used by any other species of eagle. My experience is that a bird which starts building in December lays its eggs in February. The large structure of sticks is wide and flat and not piled high, with a spacious shallow interior lined with green leaves mixed with leaf debris. The eggs, two or three in number, laid at intervals of 4 days, are smooth in texture and uniformly grey-white without marks. The average measurements of twelve are

57×45 mm. One constant factor applies to all 5 nests. They were placed very high in big trees—three isolated and two not—at the edge of dense forest, and in every case far out from the trunk near the end of a strong horizontal bough. The call in flight is a double-syllabled nasal yelp which echoes among the trees.

Short-Toed Eagle : *Circaëtus gallicus* (Gmelin)

One mid-November day in 1954 I was working through heavy swamp immediately east of the mangrove belt along Penang's west coast and, on pausing for a quick survey ahead, I picked up through my glasses and a long way off a large bird perched on a low stump. It was obviously a raptore but too white and also perched too low to be in character with more familiar species. Taking advantage of available cover I pushed on and closed the gap to about 50 yards (c. 45 m.). The bird was still on the stump intently gazing down into the swamp herbage. Presently it jumped off without using its wings into deep growth on its right, remained out of sight for perhaps ten seconds, then flapped back to the perch with a snake about three feet long, wriggling in its talons. This was a fortunate occurrence from the observational point of view, because the bird was now forced to adopt many attitudes with wings outspread for balance while manoeuvring with the snake. I was therefore able to note every aspect of plumage and identify it as a splendid adult Short-toed Eagle, *Circaëtus gallicus* subsp. The snake was eventually swallowed whole head first. Seen in flight from below this eagle is the whitest of all eagles, and the present specimen was almost uniformly white with dark wing tips and only slight duskiness across the breast. The white undertail showed three cross-bars, the bill was blue-grey, the naked tarsi pale grey, and all upper parts including tail showed a marbled effect of honey-brown with flecks of grey. The head had a slightly flat-faced appearance reminiscent of an owl's. Leaving it undisturbed I veered away on a wide detour but returned in the afternoon when I saw it again, about 20 feet (c. 6 m.) up, quartering the swamp like a harrier and hovering briefly at intervals. Back in the vicinity on 4 December I found to my surprise a pair of birds. I watched them soaring, searching, feeding, preening, resting; and incredibly also building an eyrie already of considerable bulk. From then on they became my sole obsession, and I returned three times every week to record progress. The chosen tree was a fringe tree of the mangrove forest overlooking the swamp, stout but not very tall, and the eyrie was placed against the trunk at a double fork and only 65 feet (c. 20 m.) from the ground. In the course of time it became

a huge structure of sticks and could be seen against the sky from a long distance. Yet it survived all hazards and was never disturbed. Although the birds seemed never to do very much building the aggregate of material was astonishing. By 8 January 1955, all building appeared to have ceased and not a bird was seen all day. In order to get a clue to possible events I had my climber examine the nest. It was empty. On the 15th again no birds and no egg. On the 19th still no birds and no egg and then, on the 22nd, as we approached the tree the tail of the brooding eagle was visible. After one sharp tap on the trunk she rose out of her eyrie and stood on the rim a few moments before launching herself over the forest. The single large egg was oval in shape, unglossed, bluish white with very few specks of russet here and there but scarcely noticeable—and measured *c.* 73×57 mm. The egg was lying on shiny dry leaves surrounded by fresh green ones and must have been laid on the 20th, 21st, or 22nd, practically two whole months after nest building began. Five tufts of white down were noted. The bird returned and left twice during the next hour but did not settle.

The strange absences and long delays between completion of nest and egg-laying are also typical of Changeable Hawk-Eagles, *S. c. limnaeetus*, and Serpent Eagles, *S. c. bassus*. Incubation lasted 28 days and the eaglet remained in and at the eyrie for 3 months. The Short-toed Eagles also bred in 1956 and 1957 in the same area but used different trees. In 1958 they moved to the foothills east of the swamp.

This eagle is unique in that it moves about on the ground and perches near the ground looking and waiting for food, and this is the only successful hunting method I witnessed. It also soars and glides and cavorts grandly and easily, and rockets earthward at great speed with half closed wings. I believe this to be solely a spectacular way of descending and not a prelude to pursuit or capture of prey. The adult call is a soft but far-carrying *plu-ee*.

Family HELIORNITHIDAE

Masked Finfoot : *Heliopais personata* (G. R. Gray)

The Finfoot is a resident bird, yet its nest has never been reported within Malayan territory. This is surprising because, although it is a shy bird, it is not a small bird [being some 20 inches (*c.* 50 cm.) long] but it is definitely rare. In my experience it is not so widely distributed as it is said to be. On the contrary I consider its range extremely limited. Having made extensive explorations through

every State in Malaya I never have seen or heard a finfoot anywhere except in Perlis and Kedah, and it was in the latter State I eventually found the bird breeding. There is no other waterbird like it. The sexes are similar with the exception of one distinguishing feature which is easily seen and remembered. The male has a black throat and foreneck with a thin white border all round the black; the female has a white throat and foreneck with a black border all round the white, and the black in turn is narrowly edged with white. Otherwise, both have black crowns, grey necks, oily-greeny-brown backs, wings, and tails, white underparts, yellow bills, and light green feet. The legs are placed far back, and the bird has a sleek appearance when swimming low in the water like a grebe. When taking off, which is seldom, it runs along the surface with pattering feet until air-borne. Flight is strong and straight. What astonished me most was its running ability on land. It is an expert diver when fishing, but when alarmed submerges by sinking without a ripple. The call of the male is a phrase of falsetto bubbling notes, and that of the female a lower pitched gurgling akin in quality to the frenzied nuptials of White-breasted Waterhens. To me the breeding season is synonymous with rains. Although I have examined sixteen nests: one in July, three in September, and twelve in October, yet before the discovery of the first of these in October 1941 I had been twenty years in Malaya. During the twenty years since, knowing where to look and when to look, the fifteen others were, of course, confined to the years 1946 to 1961, giving a yearly average of one, but this component includes four nests in one season. The Finfoot breeds in flat scrub jungle flooded by overflowing small streams. If there is no flood water it does not breed. I have proved this to my own satisfaction by visiting the habitat monthly through a calendar year. Thus, the solitary July discovery was made because there was flood water, the depth of which is usually from 6 to 9 inches (c. 15 to 23 cm.). Nesting sites vary in height above water, 3 to 6 feet (c. 1 to 2 m.) being normal, and lower or higher abnormal. One does not naturally associate waterbirds with sticks, yet all the Finfoot nests I have seen were made of fine sticks and lined with dried bamboo leaves. Each structure was about one foot thick and closely packed into a neat tight mass. This neatness has always impressed me and is diagnostic. The most favoured sites were recesses in the 'walls' of big upturned tree roots, on vertical tree stumps, and near the ends of horizontal tree boughs thrusting into ground scrub. Both sexes incubate and in doing so sleep swan-like with necks over their backs. When disturbed they simply plop

into the water and melt away into the forest mazes. Full clutches of eggs range from five to eight in number, seven being most frequent. They are roundish ovals with medium glossy textures. Typical eggs are creamy-white bearing rich chestnut splashes and violet areas which, however, become pale grey with the passage of time. Another type is moorhen-grey with similar colours but the grey reduces the colour intensity. Average dimensions are c. 49×41 mm.

Family GLAREOLIDAE

Pratincole : *Glareola maldivarum* J. R. Forster

In my experience pratincoles with red underwings are irregular November visitors to north Malaya: numerous, scarce, or absent altogether for reasons unknown. I have no earlier record of arrival; and my records for northward passages are all in February. Considering that these records cover a period of 40 years this dual consistency is remarkable. Nor have I ever discovered where the birds go in the intervening months. On the other hand, E. H. Bromley once told me that when he resided in Alor Star, pratincoles were present from March to July. This undoubtedly spans the breeding season but no nest or nestling was ever found or seen. It is therefore gratifying to be able to report now that pratincoles do breed in Malaya.

In 1958 I spent three months—April, May, June—in Kelantan and Trengganu and when I made the discovery no thought of pratincoles had even remotely entered my mind. I was quartering some old ploughed and tussocky land looking for the nests of 3 pairs of Red-wattled Lapwings, *L. i. atronuchalis*, whose habitat I had previously noted, and in doing so walked into the pratincole colony. The date was 20 June. In the ensuing three hours I located 15 pratincole nests over an area of approximately six acres and the lapwing nests as well. One of these containing 4 eggs was 10 feet (c. 3 m.) from a pratincole nest with 2. The other lapwings' nests contained 4 and 3 eggs respectively and were outside the precincts of the colony. Of the 15 pratincole nests three contained 3 and twelve contained 2 eggs in various stages of incubation from fresh to near-hatching; ground colours varied—pale straw, grey, or green—and carried spots and fine broken scrawls of sepia and black bloomed with violet. All nests were slight depressions: ten in dry broken-down earth, four on dried cow-pats, and one on solidified mud. Not a single nest had any shelter, and under the boiling sun the birds brooded their eggs with wide open bills and throbbing throats. Average measurements

for the 33 eggs were 32×23 mm. The pratincole's flight is easy, leisurely, and buoyant. From the ground it starts off low and gains height by a long gentle upward trend. The double call note *kee-tik* has a light timbre and tern-like quality. Notes of protest sounded like *tee-tirek*, *tee-tirek*. When the bird is incubating or standing the long crossed wing-tips can be mistaken for the deeply forked tail. In flight the prominent feature is the white rump.

A Malay shepherd on the spot with whom I spoke knew of no Malay name for the bird, but was so familiar with it as to show no abnormal interest, merely adding that he had seen eggs in previous years in different places and that the birds would disappear in August. These simple facts were given in reply to my relative questions and at least confirm the new status of this dainty bird probably the Eastern Pratincole, *Glareola maldivarum*, as a breeding summer visitor. The breeding ground is in Trengannu, practically on the same latitude as Penang, which for comparison is at least 60 miles (c. 97 km.) further south than Alor Star.

Family TIMALIIDAE

Rail-Babbler : *Eupetes macrocerus macrocerus* Temminck

On 29 May 1958 I entered the Lebir Forest Reserve in the vicinity of Jeram Chalil, after travelling for several days some twenty miles up the Sungei Lebir from Manek Urai. This Forest Reserve throughout its whole length of 30 miles (c. 48 km.) lies between the Sungei Lebir on the west and the Kelantan-Trengannu State Boundary on the east, while its southern end, about 7 miles (c. 11 km.) wide, meets the north-eastern extremity of King George V National Park under the great north massif of Gunong Tahan. In this forest at an elevation of about 500 feet (c. 150 m.) above the river I stumbled across what is probably the first Rail-Babbler's nest ever found in Malaya. As usual I was not looking for or expecting such a rarity, since I have yet to meet an ornithologist who has even seen the Malayan bird, and until I found this nest I was in the same category. My chief objectives—hornbills, pheasants, peafowl—were forgotten and abandoned and throughout the day I made observations and notes on the nest which are now rendered verbatim. 'A ragged assembly of thin sticks, tangled tendrils, and black leaf-mould forms the basic structure; on this foundation rests the cup-shaped open nest composed of fibrous roots, lichens, and some moss in places; densely and neatly woven. The diameter of the interior is 4 inches (c. 10 cm.), its central depth $1\frac{1}{2}$ inches (c. 4 cm.), and the entire lining composed

of skeleton leaves. On this gauze-like bed lie two beautiful pink eggs, the larger ends circled by zones of russet. They are longish slightly pointed ovals, have a fine texture and slight gloss, are quite fresh, and measure *c.* 30×22 mm. The nest is placed on a flat-topped boulder well-covered with vegetation and only 2 feet (*c.* 60 cm.) high, and even when known is scarcely visible at very short range. In fact the only reason I did see it is because the bird jumped off close to my knee. Both birds are alike and, although exquisitely plumaged, appear soberly coloured in the sombre forest light. They have no fear of me. They do not fly; simply move about on or near the ground and jump up to or down from the nest, turn over leaves, pass food to each other, and neither has uttered a single note in four hours.'

Family PARIDAE

Sultan Tit : *Melanochlora sultanea flavocristata* (Lafresnaye)

In the hill forest of Penang there is no other small bird like the Sultan Tit. For a tit, its plumage is revolutionary. All underparts of the male's body below the chest and the striking head crest are bright yellow, while the rest of the bird is entirely black. The female is not quite so yellow and not quite so black. Two other non-tit-like features are the large size [8 inches (*c.* 20 cm.)] and the graduated tail. However, its voice, nest, eggs, and nesting sites are similar to those of the true tit family, Paridae. Small parties move about in forest glades above the 2200 foot (*c.* 670 m.) contour and attract attention by their continuous churring chuckling as they search for food among green foliage; although decaying timber, standing or fallen, always receives special attention. When so encountered at ground level watching them is indeed a pleasure—absorbed in their searching and showing no concern or apprehension of possible danger. Their actions are deliberate, not jerky, and convey an impression of never being in a hurry. Spiders, caterpillars, grubs are placed under the feet and the contents only of their bodies eaten piecemeal. Butterflies are also caught and devoured in the same way after nipping off and dropping the wings. One call phrase is a pleasant *zip-tree-tree*, another is *zup-zee zup-zee zup-zee* repeated over and over; another, a slow mournful plaint, *pay-pay-pay*, when disturbed from the nest: besides the customary puffed-throated churring at any time. As in the case of the Malayan Great Tit, *P. m. ambiguus*, whose life-history and nesting habits I have fully described in the *Journal of the Bombay Natural History Society*, 1956, (53 : 367-73), the female